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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Heung-sup Jeong

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EXAMINER

GRAINGER, QUANA MASHELL

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/822,004	Applicant(s) JEONG ET AL.	
	Examiner Quana M. Grainger	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 29-40 is/are pending in the application.
- 4a) Of the above claim(s) 19-27 and 29-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2-5-2008</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 2-5-2008 was considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 5-6, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe et al. (US2003/0086732). Abe et al. teaches an electrophotographic printer comprising: a main frame; a photosensitive drum unit vertically detachably installed on the main frame, and having a photosensitive drum 17 on which an electrostatic latent image is formed; and an intermediate transfer unit vertically detachably installed on the main frame, and having a transfer surface to which a toner image is transferred from the photosensitive drum, wherein the intermediate transfer unit 9 is installed above the photosensitive drum unit. The photosensitive drum unit further comprises a charger 19 to charge the photosensitive drum to a uniform potential. The intermediate transfer unit 9 further comprises a second cleaning device 15 to remove toner

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remaining on the transfer belt before the toner image is transferred to the sheet. The electrophotographic printer further comprising: a plurality of development units each having a developing roller to form the toner image by supplying toner to the electrostatic latent image, wherein the plurality of development units slide in a horizontal direction (a vertical direction) and are detachably installed on the main frame.

4. Claims 1 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Park et al. (US2004/0009008A1).

Park et al. teaches an electrophotographic printer comprising a main frame to define an internal space of the electrophotographic printer; a photosensitive drum unit detachably installed at a drum operating position in the internal space of the main frame through an upper side of the main frame, and having a photosensitive drum on which an electrostatic latent image is formed; and an intermediate transfer unit detachably installed at a transfer unit operating position in the internal space of the main frame through the upper side of the main frame independently from the photosensitive drum unit, and having a transfer belt to which a toner image is transferred from the photosensitive drum, wherein the photosensitive drum unit and the intermediate transfer unit are sequentially mounted and dismounted into and from the internal space through the upper side of the main frame, the photosensitive drum unit being firstly mounted, the intermediate transfer unit is installed above the photosensitive drum unit, and the photosensitive drum unit and the intermediate transfer unit operate in the drum operating position and the transfer unit operating position, respectively ([0026-0030], figure 6-7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2, 4, and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. and further in view of Nonami. Abe et al. does not teach a cleaner device, a pre-transfer eraser, or an eraser device with light guide.

Nonami teaches eraser device comprising a lamp and a light guide for use within an electrophotographic printer. The examiner takes official notice that it is known in the art to use a pre-transfer eraser, a bushing at both end of a developing roller, insertion preventing units, and a cleaner device (see cited references).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Nonami with the image forming device of Abe et al. to erase an image and increase image quality.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of a pre-transfer eraser as is known in the art with that image forming device of Abe et al. since a pre-transfer eraser increases transfer efficiency.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of a bushing at the ends of a developing roller as is known in the art with that image forming device of Abe et al. to set a development gap between the developing roller and the photosensitive drum.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Abe et al. with the image forming device that has a cleaner device to obtain an image forming device with easy replacement of consumables (Abe et al.; paragraph [0016]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of erroneous insertion preventing units or recognition units as is known in the art with that image forming device of Abe et al. to insure proper installation of color cartridges.

8. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. or Park et al. in view of Hamano et al. Abe et al. teaches a duplex path and that the sheet transport is rotatably installed. Abe et al. does not teach a transfer roller in the transfer device.

Hamano et al. teaches a transfer device having a transfer roller and wherein the transfer device moves in an out of contact with the drum (figure 5) and a waste toner storage container 232. Hamano et al. further teaches plural developing units for the same drum (figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Hamano et al. with the image forming device of Abe et al. to reduce wear on the drum due to constant contact with the transfer device.

Response to Arguments

9. Applicant's arguments filed 2-21-2008 have been fully considered but they are not persuasive.

Applicant argues that Abe et al. does not describe that the transfer belt unit 9 and the image forming unit 7 are installed through an upper side of the main frame, nor does Abe et al. describe installing the image forming unit 7 first and then installing the transfer belt unit above the image forming unit 7. Thus, Applicants submit that Abe et al. does not disclose or teach, among other things, "wherein the photosensitive drum unit and the intermediate transfer unit are sequentially mounted and dismounted into and from the internal space through the upper side of the main frame, the photosensitive drum unit being firstly mounted, the intermediate transfer unit is installed above the photosensitive drum unit, and the photosensitive drum unit and the intermediate transfer unit operate in the drum operating position and the transfer unit operating position, respectively," as presently recited in independent claim 1.

However, figures 6 shows that the upper part of the main frame is opened along with the side (3 is a part of the top). Abe et al. teaches that the intermediate transfer member that is

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detachably installed through an upper side of the image forming apparatus independently from the photosensitive drum. Both the intermediate transfer member and the drum are attachable independently from each other because they are independently removed or individually removed. They are not removed together as in an image forming cartridge. The user removes the intermediate transfer member alone and the photosensitive drum alone. The photosensitive drum is mounted first.

Applicant argues that Abe et al. does not disclose or teach, among other things, "a photosensitive drum unit detachably installed in the internal space of the main frame through an upper side of the main frame, and having a single photosensitive drum on which an electrostatic latent image is formed," as presently recited in claim 40.

However, Abe et al. teaches several single drums. Applicant also argues about plural developing devices for the same drum. This of course is not part of applicant invention since the teaching is conventional and taught by the applied art (Hamano et al.)

The claims remain rejected as discussed above.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quana M. Grainger whose telephone number is 571-272-2135. The examiner can normally be reached on 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on 571-272-2119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Quana M Grainger/
Primary Examiner, Art Unit 2852

QG